

**ABSTRACT**

Methods and apparatus for compensating a radiation sensor for temperature variations of the sensor. In one example, the radiation sensor is a thermal sensor having at least one property that varies as a function of temperature. The thermal sensor outputs  
5 signals based on thermal radiation of interest from a particular radiating body in its view. These signals may contain significant undesirable components due in part to changes in temperature of the sensor itself. Methods and apparatus of the invention compensate the sensor for temperature variations of the sensor that are not due to the radiation of interest, so as to significantly reduce undesirable components in the instantaneous signals  
10 output by the sensor. In one example, this is accomplished without thermally stabilizing the sensor itself (i.e., dynamic temperature compensation). In another example, the sensor is thermally stabilized selectively at various predetermined temperatures as a function of the ambient temperature in the proximity of the sensor.